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Psychological Bulletin

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THE
PSYCHOLOGICAL BULLETIN

GENERAL REVIEWS

HUMAN INSTINCTS

BY E. N. HENDERSON

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Recent papers on instinct have emphasized the problems of (1) the nature of the instinct, (2) its relation to the so-called "unconscious" aspect of mental life, and (3) the method of its modification.

1. On the nature of instinct the question as to whether it is to be regarded as a sensori-motor reaction or group of reactions of a specific sort or as a general tendency, disposition, function, need, or purpose constantly recurs. The latter, or teleological, point of view characterizes those who approach the subject from the standpoint of dynamic or social psychology. The former more analytical and mechanical conception finds favor especially with those who pride themselves on being "objective psychologists." Kantor (6) declares that the instinct is "the functioning of a connate potential reaction system which is organized from simple psycho-physiological dispositions to react to stimuli." This reaction system involves cognitive, conative, affective, muscular, neural and glandular factors. In this definition he discovers, he thinks, a workable compromise between the "inert structuralism" of Thorndike's view and the "mystic potencies" of McDougall. Thorndike's "specific" theory requires that man act exactly like the animal. It leaves no room for the development of behavior. He analyzes and catalogues only instincts and neglects "instinctive behavior." The latter is particularly characteristic of man. It is a growth from original responses. Into its constitution is engrafted the results of previous experience. This involves a modification not

only of reactions but also of cognitive and emotional content. It comes to have an "end," which is not there in the beginning but is "gratuitously imposed on the situation" as a result of experience. Thus we escape McDougall's "metapsychological" speculative instincts, and at the same time get a description of the facts of human development. One wonders whether Kantor has really escaped these permanent instinctive dispositions. What else constitutes the bond of unity which guides his developing instinctive behavior? If an instinct is a function, must it not when understood be seen to have an end which is not "gratuitously imposed" from without, but is all along directive in its development?

The instinctive, psychical disposition finds its most elaborate exposition in Drever's work on *Human Instincts*. In a recent article (2) he develops the theory. The psychical includes dispositions and experiences. The former are unconscious, but they afford the basis for the psychical integration which is the essence of conscious life. Tolman (11) calls these dispositions "determining adjustments." He regards behavior as made up of (1) independent reflexes which act mechanically, (2) subordinate acts which include an enormous number of reactions which go into larger groups dependent on the general "set" of the organism, and (3) determining adjustments which control the subordinate acts. The last constitute the instincts. They are active when conduct is variable, and direct the choice of the subordinate acts that shall prevail. They are the basis of purpose, which is present wherever there is an apparent struggle toward their satisfaction. This view, Tolman holds, is identical with that of Perry (9), except that the latter regards learning as the criterion of purpose, while he looks upon the struggle toward satisfaction, even though there may not be learning, as purposive. Perry contends that Watson's attempt to explain learning by the laws of frequency and recency is unsuccessful. The controlling impulsion of an *aufgabe*, an instinctive propensity, a "set of the mind," as Thorndike calls it, is necessary to bring any experimental process to a conclusion. The docile organism possesses as springs of action (1) more deep seated, sustained and general propensities and (2) more superficial, transitory and specific ones. The former, we may presume, constitute the fundamental instincts. They lie behind all purposive, or teleological, activity.

Much of the difficulty in regard to the nature of instinct springs from the fact that the term has for a long time meant a type of

motor reaction rather than a subjective attitude or physiological disposition which renders its possessor uneasy until its cravings are satisfied. James's definition of instinct as a tendency to act may be partly responsible for this, although the use of the term in descriptions of animal behavior inevitably fixes attention on the outward activity as the essence of the instinct. James's list of instincts, it will be remembered, includes items as far apart as crying, biting or sneezing on the one hand and curiosity and sociability on the other. Dunlap (5), after pointing out the variety of usages which may be found for the term, suggests that we abandon it and substitute instead the expression "instinctive activity." He holds that teleological classifications of instincts in social psychology "stack the cards" in favor of certain explanations. The physiological classification he holds to be the only one possessing scientific validity.

2. The subject of *Instinct and the Unconscious* was treated in a symposium held at a joint meeting of the British Psychological Society and the Aristotelian Society: The discussion was opened by Rivers (10), who proposed as a criterion of instinctive behavior an "all or none" quality. "All or none" reactions are not graduated in their intensity by a perception of the magnitude of the emergency. They occur, if they occur at all, in an immediate and uncontrolled manner. They are probably initiated in the thalamic region, and may be called protopathic in contrast to the epicritic reactions. This original, instinctive, protopathic activity is overlaid and suppressed by the epicritic, graduated type of behavior which results from the growth of experience and the development of the cerebrum. It survives in a dissociated and unconscious form, to again crop out when controlling forces are weakened as in sleep, hypnotism or ill-health. Myers (8) points out that in the normal developed individual the "all or none" character is found only in certain spinal reflexes. When, however, cerebrum is separated from thalamus reflex action becomes diffuse, gradeless, exaggerated, "all or none." It follows that instinct is not wholly separated from intelligence, as Rivers thinks, but that protopathic elements in consciousness are fused with rather than dissociated from epicritic ones. They may when incompatible oppose and banish each other, but this is not the ordinary relation. In dreams, sleep or loss of control the person does not become wholly protopathic, or "all or none."

Jung (5) begins by agreeing with Rivers as to the "all or none character" of instinctive activity when considered biologically.

However, he regards this criterion as psychologically inadequate. Instinct is an internal necessity. It is uniform and regular in its manner of operation, and in this respect differs from the "phobia" which is acquired by the individual, though like the instinct its control is unconscious. Jung distinguishes what he calls the "collective unconscious," which consists of the instincts and the "archetypes of apperception," the latter including Kant's *a priori* forms. The instincts motivate reasoning without our being aware of it. Hence our rational conclusions are unconsciously predetermined by them. Similarly the "archetypes" lay the foundation for beliefs presumably rational, though often they may result in mere superstitions as in the ideas of magic power, spirits, demons, gods, etc.

Drever defines instinct as "determinate conscious impulse which is not determined by previous individual experience and attitude." It rests back on innate psycho-physical disposition which is unconscious. It is also functionally dependent upon sub-personal or perceptual experience which is often regarded as unconscious in its control. Drever agrees with Rivers that instinctive action is by itself of the "all or none" character. He also agrees that it may continue to exist in the adult. In this respect he differs from Myers (8) and Wallas (12) who regard the acquired movements under the control of epicritic sensations as replacing instinctive action in the developed person. McDougall (7) disagrees with the "all or none" criterion of instinctive activity since emotions which are instinctive have a variety of grades of expression. He holds that instincts belong to the unconscious. They are based on the structure of the mind, and the nervous and bodily structure through which they operate are also innately laid down. They are the "great channels of creative energy."

3. On the matter of the modification of the instinct two fundamentally different views appear. One is that intelligent or epicritic conduct overlies and suppresses instinctive action. The other maintains that instinctive action persists though with modifications which are due to experience and which impose upon it a character finely graduated to the character of the circumstances. The former view is suggested by Rivers (10), the latter is insisted on by Myers, Wallas, Drever, McDougall and presumably Jung (5). Wallas interests himself in the method of controlling instinctive activities, and maintains that it is not, as Rivers thinks, by thrusting them into the unconscious but rather by lifting them up into

consciousness to be encouraged or repressed according to their values. Hunter (4) defends the view that the modification of the instincts may take the form of sublimation. Woodworth had attacked this conception of Freud on the ground that it would involve the impossible consequence that the drive of the instinct should do work "foreign to its natural purpose." What really happens, he thinks, is that the supposedly sublimated impulse is inhibited by an antagonistic one. Hunter replies that sublimation is not a sudden outcome of an endeavor to control an unruly impulse, but an end-product of a slow process of modification in which the visceral activity at the core of the original instinctive action remains but becomes associated with a new end socially more acceptable than that toward which the original instinct was directed. The visceral excitement may be of low intensity and not recognized by the subject in its new setting.

Campbell (1) urges that a study of instincts and emotions would throw much light on disorders of the heart since the action of the heart has been shown by Cannon to have such an intimate connection with emotional conditions. A knowledge of a patient's instinctive and emotional history might be the clue to the diagnosis of any cardio-vascular difficulty under which he was suffering. Similarly a knowledge of heart conditions might throw light on psycho-pathological states.

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THE INHERITANCE OF MENTAL TRAITS

BY ARTHUR I. GATES

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At the time of the last review of inheritance of mental traits (1914) an active interest in testing the simple Mendelian formula by studies of the inheritance of feeble-mindedness, insanity, constitutional defects, special abilities and disabilities was apparent. In 1914, Thorndike (44), summarizing the earlier studies, questioned the usefulness of the simple Mendelian principles for explaining individual differences in intelligence on the assumption that more refined measures of the intellects of the "Kallikaks" for example would betray small and continuous variations within groups classified as "defective" and "normal." At about this time appeared a series of studies (30) embracing six volumes, from the English school of Pearson and his co-workers, showing that certain traits, long supposed to be simple Mendelian units, were, in fact, finely graded. Pearson states for example that "albinism is a graded character, and we have every reason to believe that both in man and in dogs separate grades are hereditary." "Mendelism" it was asserted "is being applied wholly prematurely to anthropological and social problems." Bringing up the dispute between Mendelian units and the Darwinian (Galton) notions of small variations continuously occurring, Heron (19), assistant director of the Galton Laboratory, in particular, criticised the tendency of American biologists in treating feeble-mindedness as a unit character. In a series of three articles (10), Rosanoff and Davenport defended their stand. Shortly, Pearson and Jaederholm (32) retorted by measures of the intelligence of school children in Stockholm, and in a later article, Pearson (31), reviewing the conflict, suggested the need of more refined measures of intelligence before a solution could be attained.

In 1914, Goddard's work (16), showing the results of careful measurements of intelligence, appeared. The author "confesses to being one of those psychologists who find it hard to accept the idea that intelligence ever acts like a unit character," but "since our figures agree so closely with Mendelian expectations and since

there are few if any cases where the Mendelian formula does not fit the facts, the hypothesis seems to stand: viz., normal-mindedness is, or at least behaves like a unit character, is dominant and is transmitted in accordance with the Mendelian law of inheritance." From time to time articles have appeared attempting to square biological theory with the accumulating data. Collins (7), for example, assumes "many unit characters, which usually (but not always) cling together when transmitted." When they cling together in one group, the appearance is that of a single unit.

On the whole, the dispute between the Galton school and the advocates of Mendelism has been largely due to mutual misunderstanding. Otis (28) has pointed out several quite different meanings attached to such terms as "unit characters," "lack of determiners," "feeble-mindedness," etc. Morgan (25) believes that the Mendelian principles have fallen into disrepute chiefly because of failure to understand them. This author points out that Mendelism does not necessarily posit a single character for each trait, for example, Roman nose or feeble-mindedness. Romanness of the nose is the result of many "units" or "factors" or "genes" which interact in various ways upon each other and upon "factors" relating to other traits. A later work (1919) (26) explains a modern theory in detail, which amounts to an enlargement and some modification of the original assumptions of Mendel. The ultimate elements "genes" or "factors" contained in but more numerous than the chromosomes contribute to each bodily trait. In the fly, *Drosophila*, for example, Morgan finds 50 different factors which affect eye color. Each part of the body is the product of many genes and "it may not be a very great exaggeration to say that every gene in the germ-plasm . . . is instrumental in producing each and every part of the body." "The essential point here is that although each of the organs of the body may be largely a product of the entire germ-plasm, yet this germ-plasm is made up of units that are independent of each other in at least two respects: viz., in that each one may change (mutant) without the others changing, and in segregation and in crossing over, each pair is separable from the others." The nature of separation, crossing, sorting, linkage and interference of genes is discussed in detail. The monograph merits detailed study and promises much toward clearing up misunderstanding on the assumption of unit characters in explaining the inheritance of complex traits such as intelligence. No attempt is made to apply the theory to mental inheritance in man, however.

Other biologists have attempted this, but their efforts lack precision. Jennings (20), for example, says: "In man, with the 24 diverse sets of characters, any single individual may produce 4,096 different combinations of characters; and the number producible by two given parents runs up to more than 500,000." "Any combination is equally likely to occur" . . . "as for mental characters, which depend on the interaction of many factors, . . . prediction is quite out of the question, save as a matter of general probability." "To be able to know beforehand from the characteristics of the parents which will be the characteristics of the offspring" has long been one of the dreams of science; but, "now we know that we never can know." "Who toiled a slave may come anew a prince in the next generation; by the working out of recombinations in heredity." But, it is added "of course we know that gifted parents are much more likely to produce gifted children."

Most workers perhaps agree with Otis (28); "whether feeble-mindedness (or any other trait) is best called a unit character or not is of no particular consequence. What we want to know is what we may reasonably expect from the mating of two given persons."

Terman (41) gives no systematically arranged data on the point in his first book although the belief that native endowment is mainly responsible for intelligence as measured by the Stanford tests may be inferred repeatedly. The study of individual cases presented is convincing evidence. Terman states (p. 118), "exceptionally superior endowment is discoverable by the tests, however unfavorable the home from which it comes, and inferior endowment cannot be normalized by all the advantages of the most cultured home." The crucial test would be the constancy of the I.Q. since if intelligence as measured by the Stanford tests were subject to environmental influences, changes would be expected in re-tests. An examination of 435 I.Q. comparisons, made at intervals of from less than one year to more than five years, of children whose ages at the first test ranged from 3 to 15 years, shows (42) "that it makes little difference whether the child was bright, average or dull, how long an interval separated the tests or what the age of the child was at the earlier test." Fifty per cent. of the changes lie between the limits of a 3.3 decrease and a 5.7 increase, the average change being 4.5 points in terms of I.Q. The correlation between the arrays of scores for the test and retest was + 0.933. Terman found that of 59 children with I.Q.'s above 135 (av., 149.7), 53 per cent. came

from fathers whose occupational status was class 1 (Taussig's 5 occupational groups), 37 per cent. from class 2, 10 per cent. from class 3, none from classes 4 and 5. "The results indicate that parents of a grade of intelligence low enough to keep them in the unskilled or semi-skilled class are not likely to produce children of the grade of ability represented here." The group of 59 superior children were found to have 51 uncles "known to be superior," 37 superior aunts, numerous cousins and remote relatives. Of 112 parents for whom data was available, 52 (46.4 per cent.) were college graduates, 91 (81.2 per cent.) were graduates of high school. In the population at large the proportion of college graduates is probably not more than one fortieth as high, and the population of high school graduates not more than one tenth as high.

If the index of brightness obtained by other investigators remains similarly constant, the studies of intelligence as related to social status made by Soffiotti (37), Yerkes and Anderson (47), Bridges and Coles (1), Pintner (33), Streeter (40), Thorndike (39), Kornhauser (23) and others yield significant data concerning the inheritance of mental abilities.

Miss Downey (14) finds that if both adults are "superior" according to Stanford-Binet index, 80 per cent. of the offsprings are "superior," whereas if but one parent only is superior, 33 per cent. of the offspring are. Exact I.Q. measurements of children and their parents would undoubtedly lead to more exact principles of prediction.

Cattell (4) has given two accounts of vital statistics of the thousand leading American men of science. The data regarding conditions unfavorable to abundant offsprings are analysed. Data concerning eminences among the relatives of scientific men have not yet been published.

Several studies of heredity in the case of temperamental, emotional and instinctive traits have appeared. Davenport (11) attempted to formulate the carriers of traits which combine to form certain "temperaments" or "moods." There is in the germ-plasm a factor E which induces excitability and its absence, e, which results in calm, a factor C which produces cheerfulness and its absence, c, which permits a more or less periodic depression. These factors behave "as though in different chromosomes so that they are inherited independently of each other and may occur in any combination." This hypothesis is tested in 89 families embracing 629 progeny with the result that the author is "morally certain" that it fits the facts.

Davenport (12) also makes an initial effort to trace the inheritance of "nomadism" or the "wandering instinct." The histories of 616 people, members of 100 families, were examined, leading to the hypothesis that the wandering instinct is an inherited but sex-linked recessive trait, like colorblindness, being more frequent among males. Williams (46) studied the family histories of 24 nomadic delinquent boys, and of 24 non-nomadic delinquent boys. Of the 312 relatives of nomadic boys on whom reports were secured, 30.4 per cent. were nomadic, whereas but 1.2 per cent of 318 relatives of non-nomadic delinquents showed this trait. Williams' study harmonized with that of Davenport in showing nomadism to be closely associated with "various kinds of periodic behavior."

An effort to trace the heredity of "lack of emotional control" led Finlayson (15) to a study of 754 members of the Dach family in Pennsylvania. Of 153 who attained the age of 20 and concerning whom data were secured, 40 were reported to have shown no marked anti-social behavior (though judged to be of low intelligence), 72 exhibited sexual irregularities, heavy drinking and "various evidence of degeneracy," 41 were insane, in penitentiaries, or in some way markedly inferior and socially unfit. Twenty of these had served in public institutions. "Lack of mental ability and nervous instability" is judged to have been at the bottom of the degeneracy pictured. The "quick temper" or "lack of emotional control" observed is said to "corroborate Dr. Davenport's theory that quick temper is a Mendelian dominant for the trait does not skip a generation."

Few studies of the inheritance of special functions have appeared. Miss Cobb (6) attempted to measure the resemblance between parents and offspring in arithmetical ability. Twenty children and their parents were measured by five of Courtis' Standardized Tests, Series A. The arithmetical profiles were obtained by correlation, *i. e.*, the figures correlated were not absolute scores but relatives between scores for the various tests obtained for the child and for each parent. The coefficient of resemblance of child and the *like* parent was + 0.60; with the mid-parent + 0.49, with the *unlike* parent + 0.01. The author concludes that "this likeness is due to heredity." The coefficients between absolute scores, for the five tests, averaged + 0.54 child and like parent, + 0.32 child and mid-parent, + 0.08 child and unlike parent. Miss Downey (14) finds that certain special abilities (from pattern tests, etc.) appear very early and show a family resemblance, although her data are limited.

During 1918-19 the American Genetic Association made an appeal for information from twins. Six hundred pairs of twins responded. A rich field for study was here provided. The early reports (21) include measures of resemblance of height, hair, color gait, susceptibility to disease, but so far no exact measures of mental traits have been reported. Starch (38) measured 18 pairs of siblings who were university students with a battery of educational and mental tests. These tests were grouped into those which were assumedly subject to school training which yielded an average coefficient of +0.42, whereas a group less susceptible to school influence (memory, cancellation, geometrical forms and tapping) yielded an average coefficient of +0.38. Since the coefficients were not reliably different, resemblance was attributed primarily to heredity.

Davenport (13) reports an extensive study of the heredity of the disease, Huntington's Chorea. Nearly all of 962 choreics were traced to a half dozen individuals, including three brothers, who migrated to America in the seventeenth century. Detailed data are not given but it is stated that "the method of inheritance of some of the elements of Huntington's Chorea has been worked out. In general, the choreic movements never skip a generation and in other respects show themselves clearly to be a dominant trait." Rosanoff (36) in a survey of mental disorders in Nassau Co., N. Y., reports, without detailed data, that "heredity appears as a highly important factor." Bryant (2), summarizing a study of 20,000 cases, states that 50 per cent. of stammerers show speech defects among near relatives and if the stammering appears very early, he did not find "an instance unless some blood relative had previously shown disordered utterance."

There has been some discussion of the transmission of acquired traits of behavior. Thorndike (43), reviewing the evidence, concludes that "the evidence is against the transmission of acquired mental traits." Watson (45) states "although, as yet, the evidence in favor of the inheritance of acquired characters is inconclusive, it is of sufficient importance to make it impossible to disregard entirely the possibility that such inheritance has played a large role in adaptive evolution." Chase (5) after a study of conditioned reflexes argues that "modifications in forms of behavior attended by intense and thorough integration of the organism are likely to be inherited."

A number of books, some of them popular, have appeared on

eugenics and kindred subjects. Conklin (8) gives a sane discussion of heredity and environment in the development of men, Pearl (29) points out the usefulness of experimental and biometric methods of research. Guyer's (18) treatment of eugenics could scarcely be accepted by leading biologists in its treatment of Mendelian traits. Coulter (9) presents a conventional text suited to high school or college classes and Castle (3) has written an advanced text chiefly of interest to animal breeders.

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SUGGESTION

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It is somewhat difficult to set a limit to the subject matter to be reviewed under the rubric suggestion. Suggestion is truly insinuating and has played such a real part in many practical fields during the last few years that its story is told largely in the literature concerning the psychology of testimony, business psychology, educational psychology, hypnotism, and above all in the discussions of modes of treatment of the war neuroses and psychoses. As these subjects are covered by other reviews in the BULLETIN, we shall include articles in these applied fields only when their primary stress is upon suggestion.

The controversy concerning what suggestion and suggestibility really are still persists. Janet (23) presents a detailed history of the concepts suggestion and hypnosis, with a critical discussion of the various connotations of the term suggestion and a study of the psychic conditions which adhere in the state of suggestibility. For Janet suggestion and suggestibility are strictly limited conceptions, they refer not to that ease of imposing and receiving ideas prevalent to a greater or less degree with all normal individuals, but to a distinctly abnormal phenomenon depending upon a narrowing of mental activity combined with a certain strengthening of automatism. He defines suggestion as a special reaction to certain perceptions, which reaction consists in an activation more or less complete of the tendency initiated by these perceptions, this activation not being completed by the collaboration of the rest of the personality. Thus two conditions are indispensable—acceptance of idea without reflection and an automatic activation of said idea.

This definition is similar to Baudouin's (6) which accentuates emphatically the second, the automatic phase. But while Baudouin holds that such a phenomenon is producible in ninety-seven or ninety-eight per cent. of persons, Janet reports that he has succeeded in producing hypnotic suggestion in only two hundred and fifty of some thirty-five hundred patients, and that the greater number of

these two hundred and fifty were suffering from hysteria. Uninduced states of suggestibility Janet thinks occur only in hysterics and induced states occur rarely except in persons suffering from this condition.

Janet limits the automatic activation of suggestion to acts which under normal conditions could be voluntarily controlled. Coué (6) and Baudouin, on the other hand, believe that the automatic activity of suggestion extends to the control of movements of the vital organs, and as a consequence they assert the almost unlimited therapeutic value of suggestion. Janet is of the opinion that both the dangers and the benefits of hypnotic suggestion have been much exaggerated.

Babinski and Froment (3) also identify suggestibility and hysteria. They believe that hysterical symptoms cannot be produced by emotional shock unaccompanied by suggestion and also that treatment by suggestion is almost a certain cure for hysterical symptoms. They further hold that their views were so well sustained by successful treatment of war neuroses that the Neurological Society was led by them to request the State Department that no soldier suffering from a psycho-neurosis be brought before a medical board with a view to discharge from the army. They claim further that treatment by suggestion consistently failed when applied to disorders of an organic nature or of a physiopathic nature.

Bumke (12) discusses suggestibility in connection with hysteria, and finds it possible through its use to influence complex mental conditions which are quite beyond the patient's voluntary control, and also to influence organic movements.

Suggestibility in relation to hysteria is also discussed by Gordon (20). Following McDougall, suggestibility is defined as a readiness to accept propositions with a conviction which is not justified by logic and reason and is considered as innately present in all persons, varying in degree with individual differences and with objective conditions. Gordon states that pathological suggestibility is not essential for hysteria, that hysterical symptoms may arise on a basis of normal suggestibility if the external stimuli are very intensive. Hysterical symptoms arise rather as the result of the interplay of subjective and objective conditions.

Very interesting and stimulating is Baudouin's (6) presentation of the contribution of the New Nancy School to therapeutics, to education and to psychological theory. The contribution to thera-

apeutics is a clear-cut method of treating disease, with a remarkable series of cures effected thereby. The contribution to education is several methods not so clearly defined. The contribution to psychological theory is a definite conception of the mechanism of suggestion, its clarity somewhat veiled by an involved terminology and by the author's notion of the meaning of will, which he confounds with desire and effort.

Suggestion for Baudouin means the subconscious realization of an idea and involves two processes—the acceptance of the idea by the subconscious and a subsequent ideo-reflex by which it is activated. This ideo-motor reflex is in truth an extension of the theory of ideo-motor force to include the realm of organic movements, the psychical aspect of organic movements being in Baudouin's opinion subconscious or unconscious. Coué, the founder of the New Nancy School, and Baudouin, the exponent of its teachings, believe that an idea dwelt upon by a person in a state of slight hypnosis has power to realize itself in movements of the vital organs. If in this state a dyspeptic dwells upon the idea of a normal functioning of his digestive organs, this idea has power to initiate organic movements which tend to correct the existing trouble. It is difficult to conceive of an idea having the power to initiate movements of a kind which have never had a conscious aspect, but it is pointed out that Delboeuf holds that at a certain level in the course of evolution the individual was conscious of the movements of his vital organs, and that only at a late level in the phylogenetic series, owing to the increasing complexity of the mental life, were the organic sensations relegated to the subconscious. From this notion it is but a step to the idea that control of the organic movements by ideation might be achieved by an arousal of racial organic memories.

In practice at Nancy deep hypnosis is abandoned and emphasis is shifted from suggestion to auto-suggestion. A few initial experiments are employed to demonstrate to the patient the principle of ideo-motor force and he is informed that the same mechanism applies to the movements of the vital organs. A slight hypnosis is then induced and suggestions given, the patient being told that the realization of these suggestions depends entirely upon his holding the ideas in mind, not in the least upon the practitioner. He is further told that he can repeat the proceeding quite as well by himself; this tends to increase self-respect and self-reliance, and gives an educative character to the whole procedure.

Emphasis is laid upon the fact that organic diseases are amenable to this method of cure, remarkable cures are cited, and it is stated that working with as many as one hundred cases per day Coué succeeds in leading ninety-seven per cent. to recovery.

There is an attempt to correlate this philosophy with Freudianism on the one hand and with Bergsonianism on the other: while the Freudians deal with the subconscious in the affective field and the Bergsonians with the subconscious in the field of intellection, the Nancy School deals with the subconscious in the field of action.

Raymond (37) treats in a popular manner the application of autosuggestion to self-education, adapting his teachings to adults who find themselves inefficient and ineffective.

Several writers report cases supporting the contention of the Nancy School that organic processes are amenable to suggestive influence. Courtier (15) claims to have secured changes in cutaneous temperature through suggested emotions. Hadfield (21) unexpectedly produced a blister by suggesting a touch on the arm by a red hot iron. This was followed by a series of apparently well-controlled experiments on the same patient which included: successful repetition of first experiment, suggestion of touch of iron with added suggestion of no pain—result: no blister; real burn with iron with suggestion of no pain—result: rapid healing; real burn with iron—result: difficult healing. The author concluded that the suppression of pain in pathological conditions is a valuable therapeutic measure, and that such suppression can be obtained through suggestion. Tombleson (42) reports a series of eighty cases of war neuroses treated by hypnosis. All but one were cured or relieved sufficiently to return to active service. Hyperthyroidism was among the conditions relieved.

Boriac (10) is most open-minded as to possible therapeutic effects of suggestion. He defines suggestion as obedience, involuntary or even automatic to the idea which has been suggested; its essence is the subject's inability not to do and not to believe that which is said to him. In hypnosis normal suggestibility is increased to the point where absurdities are accepted. He sees no reason to impose limits as to possible results.

Army experience has much increased the interest of physicians in suggestion and hypnosis. Dr. Southard (40) gives an analysis of the literature of war neuro-psychiatric problems, and concludes that the problem of suggestion in its true nature remains the big problem of psycho-pathology and psychology. He proposes that

someone make a similar analytic study of previous case literature, and place side by side the precisely identical results obtained by physicians, ecclesiastics, charlatans, and others, and ventures the guess that the whole situation depends upon suggestion.

A number of physicians discuss the value of suggestion and other psycho-therapeutic measures in general practice. Yellowlees (43) states—"if we decide that a patient's illness is due to wrong habits of eating we try to teach him right habits of eating, if we decide that his illness is due to wrong habits of thinking we—give him bromide." He then discusses methods of teaching right habits of thinking—as a substitute for the bromides—treating of persuasion, suggestion, mental analysis, and re-education. He accentuates as do Bonne (9), Robertson (39), and Mathewson (27), that psychic factors are present and should be treated in all cases of illness of whatever character. Potts (33), Bonne (9), and Podiapolisky (32) consider suggestion a powerful agent in relieving pain of all sorts; Bonne cites the pains of neuralgia and inoperative cancer, and Potts the chronic pains as being amenable to suggestion, while Podiapolisky finds that on persons with whom deep hypnosis can be produced (estimated as seventeen per cent. of cases) surgical operations can be performed during hypnosis, painlessly and without interrupting sleep. He cites cases so treated in army hospitals. Potts finds suggestion valuable in dealing with insomnia and the vomiting of phthisis. He advocates a careful analysis of development of mental symptoms followed by appropriate curative suggestions. Mathewson holds the neglect of psycho-therapy by the physicians as responsible for the flocking of the public to Christian Scientists, osteopaths and healers of all sorts. Ladell (25) cites the fact that the nervous breakdown and hysterical symptoms suffered by so many soldiers during the late war familiarized physicians with these conditions and the psychic methods by which they were cured, and pleads for a transference of this knowledge and these methods to civil practice where exactly similar conditions abound. He advocates a judicious combination of all psycho-therapeutic methods. McAree (28) writes that a knowledge of applied psychology is as important for the physician as a knowledge of physiology, that physicians are apt, while considering the body as a machine, to neglect the vital force or fuel which makes the machine operative. He describes the subconscious mind as studied in upwards of one thousand cases of hypnosis. Although making this plea for a knowledge of psychology the lack of a sound psycho-

logical basis in the writer's own equipment is betrayed by such statements as "psychologically the brain consists of two parts, the conscious and the subconscious."

Bannister (4) reports a case of profound amnesia and confusion in a soldier cured by hypnosis in which a description of the explosion of an aircraft bomb, which event immediately preceded the onset of the mental symptoms, was evoked. During the hypnotic sleep appropriate suggestions were given and on awakening confusion had disappeared and memory returned.

Jeffrey (24) describes a case of depression with confusion cured by a single hypnotic treatment.

Gandy (18) cured a case of fear of motorcycles in a young child by giving the child appropriate suggestions during natural sleep.

Dr. Cartell (14) displayed unbounded faith in the curative powers of suggestion in his treatment of a man suffering from uncontrollable sleeping attacks which overcame him at the most inconvenient and inopportune times. The man was easily hypnotized but the symptom failed to disappear under hypnotic suggestion and the following almost unbelievably drastic measures were resorted to. Dr. Cartell presented the case before an assembly of physicians, patient being present, diagnosing it as a case of pressure on the brain caused by the thickening of a small portion of the skull. He read a report of a similar case (fictitious) which had been completely cured by the removal of the thickened portion of the skull. The patient, much impressed, demanded the operation, which Dr. Cartell performed, and complete recovery ensued.

Dr. F. X. Dercum (16) in a revised and partially rewritten edition of a former work devotes one section to suggestion. The discussion has not, however, been brought up to date, autosuggestion, for instance, is disposed of in one paragraph describing abnormal states into which certain hypnotizable persons drift involuntarily! The modern therapeutic uses of autosuggestion are not mentioned. Suggestion is defined as conveying to or arousing in the mind of another an idea in an unobtrusive manner.

Dr. Hart (22), discussing methods of psycho-therapy, recognizes three fundamental principles—suggestion, persuasion, and analysis. Suggestion he finds an ambiguous term and as he holds that suggestion is based primarily upon an affective factor, he suggests the term affective therapeutics as a substitute. In defining suggestion he accepts McDougall's conception (29)—"suggestion is a process

of communication resulting in the acceptance with conviction of the communicated proposition, in the absence of logically adequate grounds for its acceptance," adding that this acceptance is due to the fact that conflicting processes which are or should be present are inhibited by affective complexes. The communication of a proposition by a second party is an integral part of this conception, as is also the idea that the resulting action has nothing whatever to do with the process of suggestion. The definitions of both McDougall and Hart deny both postulates of the definition of Janet and also that of Baudouin and run counter to Babinski's in attributing to affective processes the main power. McDougall considers suggestibility an innate tendency which varies with individuals and with the same individual under different conditions. The more highly educated the individual, and the stronger his self-assertive instinct, the less his degree of suggestibility, which however varies according to the proposition suggested, his state of mind at the time of suggestion, and the prestige of the suggester.

The Relief of Pain by Mental Suggestion (5) is a little book written by a clergyman describing a healing mission in New York City inspired by Dr. Worcester's Emmanuel Movement. The book is popular in form and recognizes suggestion both in the waking and hypnotic states as a potent factor in curing maladies.

Emma M. Caillard (13) also writes from the faith cure standpoint. She holds that cures by suggestion are effected by means of the implied faith and that faith as a curative agent is only completely efficacious when it uses autosuggestion as its tool.

Myers (31) describes the use of normal suggestibility in the education of service men during the late war. Letter writing was taught by means of model letters purporting to be written by soldiers to relatives and friends. These letters contained opinions and facts which were desirable for the soldier's mental equipment. When the pupils had learned enough to write letters on their own accounts it was found content as well as form of model letters had been accepted.

Bonne (9) also holds suggestion to be a power in the education of soldiers while Gordon (20) in discussing individual differences in suggestibility states that the army discipline develops in soldiers tendencies which increase suggestibility and ventures the opinion that this fact may account for the great prevalence of hysterical symptoms among the soldiers during the World War.

Prideau (36) presents an analysis of the conditions productive of variations in the degree of suggestibility. These conditions he

groups as individual differences, time and conditions, system of ideas appealed to, personality of operator. He finds suggestibility strongest in children, in egoists, in persons whose associations are predominantly of the contiguity type, and in persons living in warm countries. He finds that the psycho-galvanic reflex always shows that exaggerated suggestibility is accompanied by low emotional response. He thinks that could the converse be shown (low emotional response is always accompanied by increased suggestibility) we should have in the galvanic reflex a measure of the degree of suggestibility. The varying suggestive force of different ideas is explained as depending on previous predilections; affective conditions are held responsible for the variation in suggestibility with conditions; and differences in suggestive power of various operators is explained as depending upon the affective relations of the two persons involved. Affective states play an important role in Prideau's conception of suggestion. He explains sudden cures of hysterical symptoms by suggestion, by the substitution of one affective state for another. Abnormal states of suggestibility he considers as differing only in degree from normal suggestibility.

W. Brown (11) presents an extensive experimental study of individual and sex differences in suggestibility, made at the University of California. Tests were conducted by graduate students and subjects were students who were ignorant of the nature and purpose of the experiments. The experiments embraced several series testing the effect of suggestion on sensation, perception of change, memory of position, color preference; the Binet tests of progressive weights and progressive lengths; the fidelity of report test, the ink blot test, the size-weight, and the Müller-Lyer illusions. Individual differences in suggestibility were not indicated by the results. Women were found to be more suggestible than men.

Suggestibility, with and without prestige, is studied by Aveling and Hargreaves (2), by means of seven tests, some of which involve the personal suggestion of the experimenter and some of which do not. They find that the personal or prestige suggestions result in much contra suggestibility, while individual differences in suggestibility are marked, and that the impersonal or non-prestige suggestions give results the reverse of these. Suggestibility is found to be general rather than particular in nature and to be much influenced by environmental conditions and mental equipment. Correlations with many character traits and mental abilities are worked out, but no striking correlations found.

Langfeld (26) studied with five subjects the power of judging the emotions from facial expression. He used a series of one hundred and fifteen photographs each expressing a given emotion. The effect of suggestion on the judgments was studied by a subsequent presentation of the same pictures with a simultaneous statement of the emotion pictured. Marked individual differences were noted in the results of both series of tests, and there was no correlation between ability to judge of emotion and suggestibility.

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SPECIAL REVIEWS

HOLLINGWORTH, H. L. *The Psychology of Functional Neuroses.*
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Professor Hollingworth's book grows out of his experience in charge of a military hospital in Plattsburg. It is largely concerned with the application of psychometric methods, and is chiefly valuable for certain questions of interpretation on which it throws light. The reader does not perhaps get a full idea of the medical and military issues that complicate the problem for the present material, and it is not surprising that medical reaction to the book has not been wholly favorable.¹ The present endeavor is to sketch briefly those aspects of the presentation which are of chief interest to the psychologist. The psychometric work was based chiefly upon a group of selected tests, completion, opposites, substitution, word-building, digit span, cube imitation. The scores in these tests are converted into mental age units, according to existing norms. Among the patients observed, all the presumably functional groups have a median intelligence rating inferior to that of the average soldier. The average mental age of 1,172 cases is 11.7 years,—about 2.5 years below that of the average soldier. The distribution of mental ages is bimodal; the soldiers reaching this country with chronic or extended functional nervous conditions tend to be distinctly inferior or superior to the average. Various interpretations are discussed. In 252 cases of functional conditions a comparison was made according to whether the condition had developed in line of duty, or had existed prior to enlistment. The mental age of the latter group was definitely lower. Comparison with data accumulated by Baldwin shows special educational poverty in the present cases. Fifteen per cent. of the present cases reached the 8th grade, 4.4 per cent. graduated from high school. In analysis of symptoms, a three-fold classification was made: class I, including cases where the specific symptom was physical; class II, where both physical and psychic symptoms were exhibited; class III, those where the complaints were definitely of a psychic or subjective character not externally obvious. The mode for class I is at 11 years, for class III at 15 years, class II

¹ Cf. *Arch. of Neurol. & Psychiat.*, 1920, 5, 228-230; *Mental Hygiene*, 1921, 5, 181-189.

occupying an intermediate position. The possibility is suggested that the relationship between the anxiety neuroses and military responsibility on the one hand, and between somatic symptoms and enhanced suggestibility on the other, represents the dependence of the clinical picture on the intelligence level of the individual.

A series of results with the Woodworth personal data questionnaire are cited. These questions are classified in three groups, according as they relate to present condition of health; or to conditions referring to the present, past or both; or to matters of historic fact. Figures are given, showing the effect of the armistice in replies to questions so characterized. In the questions bearing directly on present condition, each diagnostic group reports fewer symptoms, but the change is much more marked in psychoneuroses and hysteria than in neurasthenia or constitutional psychopathy, and less in epilepsy. A less striking effect is observed with the questions of intermediate classification, and a still lesser effect in the questions on historic fact. The normal score of white recruits in this test is the report of ten positive symptoms; with college students it is the same; with colored recruits, nineteen symptoms. Psychoneurotic disorders incurred in the service averaged from 30 to 40 symptoms reported. The scattering of the group intelligence tests was measured by computing the variation of the separate test ages from the median mental age in the tests. The greatest variation is shown in the hysterical, epileptic and concussion groups, with an average deviation of up to two years. The mental defectives are least variable, with a measure of just less than one year. The variation for neurasthenics, psychoneurotics and constitutional psychopathic states averages about 1.5 years. The result for the mental defectives is somewhat questioned by the author. Correlations are computed between the ratio of psychoneurotic cases to population and various other population statistics. It is highest with density of population per square mile, the coefficient being .58. It is also distinctly positive with the percentages of insanity, illiterates over 10 years, and of urban population; these coefficients being about .25. In the discussion of "mental ability and age," it is brought out that certain types of intelligence tests may show a uniform increase in average score up to 40 years. Other tests may show progressive increase in score up to about 15 years only; other tests may even show a loss after maturity is reached. For the five tests examined in this respect, numbers of cases varying from 18 to 50 were available for each of fourteen age intervals

examined between 20 years and 45 years. There is no change in the age level scores except in the substitution test, which shows a fairly consistent decreasing tendency, the score at the oldest level being 84 per cent. of what it is at the youngest level. It is inferred that up to the age of 40 or 45 years, "attentive apprehension and general mental alertness do not change with chronological age, but that learning capacity changes inversely." The variability in a group does not appear to be influenced consistently by chronological age, but it ranges from 13 per cent. in the digit span to 43 per cent. in word-building. A comparison of 93 cases is made between the group survey test and an individual examination; the average difference between the two is 1.3 years mental age; the group survey rating tending on the whole to be lower than that of the individual examination. It is concluded with Pintner and Paterson that group tests are very adequate as applied to groups, though with possibilities of considerable errors when applied to individuals in the group. The test procedure is described with the detail of an "examiner's guide." A concluding chapter discusses the different ways in which psychological service is to be utilized under the conditions where the present work was done. Here the accounts of a few cases where special re-educational results were obtained are of particular interest.

The remainder of the volume, including the earlier portion, develops a concept of "redintegration" as an underlying mental mechanism in the group observed. When a situation has evoked a certain reaction, some part of that situation in the setting of another situation may elicit the total reaction to the first situation. This is the essential mechanism of redintegration. The process has found acceptance in formulations of the psychology of the neuroses, where it has been embodied among other concepts, as transference, regression, infantile fixations, the unconscious, carrying some additional topical connotations. At the slight meaning he finds in these, our author evinces an impatience vaguely reminiscent of a picture of Brahms trying his technical skill before a group of intent and appreciative listeners. The title of the picture is "*Die Macht der Musik.*" The conventional Magyar examines the picture. "*Saudumm!*" he exclaims; "*Schreibt der Kerl '*Die Macht der Musik*'—anstatt '*Der macht die Musik.*'?*"

F. L. WELLS

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TANSLEY, A. G. *The New Psychology, and its Relation to Life.*
New York: Dodd, Mead, 1920. Pp. 283.

Some twenty years ago, the "New Psychology" was an account of experimental methods, in a book by Scripture that is still useful. Today the conventional Athenian is invited to the psychology that has grown up through the influence of Freud. Tansley's book can itself hardly be called Freudian psychology, but represents one of its cadet branches. As an exposition of this matter on the popular level, Hart's *Psychology of Insanity* has long been in a class by itself. To Hart, Tansley acknowledges much indebtedness and his book may appeal more to the student, though less to the general reader, than Hart's. With its greater length it is more complete and systematic, on the other hand is less concrete and colorful. There is hardly enough "novel" material in the book to make a summarizing survey in place. Besides Freud and Jung, Trotter and McDougall seem to be those whose influence is felt most. The libido concept is derived with some directness, and the reviewer thinks, appropriately, from Jung, there being remembered the special, or rather general, sense in which Jung conceives this term. The sexual sphere is taken up from an unusual angle, and very well dealt with. The general impression is of a rather successful attempt to fit these newer views into the more classical setting; and this nowhere shows to better advantage than in those portions of the material which would ordinarily give the most difficulties in presentation to the undergraduate student. As a text or as collateral reading, it seems particularly commendable to elementary collegiate courses in which it is not intended to emphasize the experimental phase. For the more advanced student, the first place would still seem to belong to Pfister's work.

Tansley's book combines with its clarity a dryness not usually associated with contributions from its angle. There is less "case teaching" than one could wish for; nor are many books written to give so little hint of the personality behind them. One wonders if the author fully intended the sacrifice to objectivity that this involves. Such a book is apt to move slowly for the general reader, seem a little dull to the expert, while teaching of more than ordinary quality is needed to "get it across" to students. It is unusual indeed to recommend a quasi-psychanalytic writer to "jazz it up." For the instructor who can compensate this lack, the book has no superior as a foundation text for the elementary course.

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BOSTON PSYCHOPATHIC HOSPITAL

EUGENIO RIGNANO. *Psychologie du raisonnement.* Paris: Alcan, 1920. Pp. xi + 544.

The behavior of all organisms, from the lowest unicellular species to man, is interpreted as the manifestation of a tendency to maintain or restore the creature's physiological equilibrium. This underlying tendency is regarded by the author as the generic form of a large number of "affective" tendencies, which appear to man subjectively as desires, appetites, or needs, and which express themselves objectively in the non-stereotyped movements of all animal species. These affective tendencies are attributed to the phylogenetic accumulation of mnemonic material in the higher nervous centers.

Attention is a derivative form of the affective tendency, in which the consummatory act is checked and held in suspense. Attention is the basis of the orderly and systematic associations of ideas which gradually replace the incoherent and illogical associations due to chance contiguity or resemblances. By this temporary suspension of the tendency to action, thought is kept in touch with objective reality. This is the essence of reasoning, considered as a psychological phenomenon.

The evolution of reasoning is traced from its lower concrete forms to abstract reasoning and from simple "intuition" to inference. Rignano devotes several interesting chapters to an examination of the various types of mathematical reasoning and symbolic logic. Pathological manifestations of reasoning are found in dreams and various types of insanity. Dreams are both incoherent and illogical. The reasoning of the insane may be either illogical and coherent or incoherent and logical.

The author contrasts two forms of purposive reasoning, which he calls *dialectical* and *metaphysical*. The former is used in scientific research and has proved uniformly fruitful. Metaphysical reasoning, as used by philosophy in attacking cosmological problems, leads to sophistry and has generally been barren.

The problem of conscious and unconscious reasoning leads to an examination of current theories of the subconscious. Rignano recognizes the reality of double personality, but considers it distinctly a pathological phenomenon. He does not accept the Freudian notion of the subconscious psyche, which he characterizes as a form of mysticism. The phenomena attributed to its workings are in reality automatic and mechanical. The special function of consciousness is to bring about *choice*, and no selection is possible in mechanized behavior.

Mental activity falls into three essentially different classes: (1) Potential states, capable of passing into actual states. These include the underlying affective tendencies, which are neither conscious nor subconscious. (2) Automatic activities, including organic (autonomic) functions, reflexes, and the complex mechanized behavior activities due to grouping of reflexes. The last named are all built up by the method of trial and error. (3) Acts and associations of ideas in which the presence of selection or choice is manifest. In some of these last, where there is no consciousness, we "must fall back on the hypothesis of subconsciousness or coconsciousness"; that is, we must assume a double personality.

Our inner life, says Rignano in conclusion, is fairly saturated with purpose—with teleology. The lifeless world outside us, on the other hand, appears to be activated by no purposiveness whatever. In the history of thinking two opposite tendencies have contended for supremacy: Reasoning strives to strip the universe of its teleological meaning. Feeling (sentiment) irresistibly drives us toward a purposive interpretation of all things.

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Practical Psychology and Psychiatry, C. B. BURR. (5th ed., rev. and enl.) Philadelphia: Davis, 1921. Pp. 269 + viii.

This book which has passed through five editions under slight changes of title shows the need of a brief manual on psychological subjects that bear application to the work of our institutions for mental and nervous diseases. Psychology is still very much misunderstood by the medical profession, but there is a growing desire to learn such essential facts as are no longer controversial and to cooperate on problems of a scientific nature that are common to both professions. Nowhere is there more favorable ground for mutual assistance in the search for truth and for the reciprocal recognition that stimulates the search than in our hospitals for mental derangements. A book like the present volume but with the introductory chapters on psychology written by a professional psychologist in consultation with the mental practitioner would be very much worth trying.

Part I gives very briefly and in an almost catechismal manner the outlines of psychology. It is here that the author would have done well to consult a psychologist in the revision of his text. "Dogs often display a high type of reasoning and judgment" (p. 4);

"the brain is the organ of the mind" (p. 5); "the faculties of the mind are three: thinking, feeling, acting" (p. 13); "these special senses are six in number: hearing, seeing, smelling, tasting, touch, muscular" (pp. 13-14); "winding the watch before retiring frequently takes place without consciousness" (p. 38); these are statements that would secure the sanction of few if any present-day psychologists. The discussion of feeling, volition, and thought, together with a special section on localization of function in the brain¹ and a chapter on special mental phenomena that bear on clinical manifestations, are calculated to aid materially in the comprehension, diagnosis, and treatment of mental and nervous disorders.

The short Part II on "Symbolism in Sanity and in Insanity" is very well done and should be of interest to psychologists who are concerned with the problems of meaning. With more authority the volume then proceeds in Part III to a consideration of the definition, causes, forms, and related psychoses of insanity. The author gives clear, succinct accounts of many, if not most, of the variations that develop and expert advice concerning their treatment. This clinical management is described in greater detail and with rare insight in the succeeding parts (IV and V). If the author's psychology is somewhat out of date, his conception of the mental needs and desires of his patients and his application of psychological principles to his practice is thoroughly modern and commendable.

In the final part the writer has added a chapter on the prevention of insanity. It ought to be read by every parent and trainer of children. The untoward influence of a stilted environment, the unwholesomeness of an overgrown civilization, and the indulgence of thoughtless guardians of youth are largely held to account for the increase in mental derangements. In the arraignment the educational policy of departing from the rigor of a disciplinary procedure and of courting favors of the goddess of interest and appeal is also blamed for the mental products that result. The author thinks and the reviewer agrees that there is some merit in the mere recitation of the multiplication table that no modified program can furnish in its place. Memory training without regard

¹ Dr. S. I. Franz, in his presidential review of the question of cerebral-mental relations (*Psychol. Rev.*, 1921, 28, 81-95), does not come to the positive conclusions attained in the text on matters of localization of function. It is always difficult to compromise between the dogmatism of a textbook and the tentative attitude of the scientific investigator, but certainly the research of today should prompt modifications of statements in several instances (pp. 9, 26).

for content, but with emphasis on the instruction to remember, is a point that recent inquiry has not failed to substantiate. But with this one must also recall that the hereditary influences of insanity, frequently inadequately checked, are beginning to show a reckoning.

The volume is provided with a carefully compiled index and especially in the earlier part with well-selected diagrams. Elsewhere the citation of illustrative case material helps to clarify descriptions of mental symptoms. The style is lucid throughout and in many places forcefully enthusiastic. The impression is gained that whatever the faults of the psychological section may be, psychologists would do well to read what a successful practitioner has accomplished with an appreciation of the psychological aspect of the problem. Systematically there may be defects, but practically there are results. The book ought to bring light to those institutions that are managed in stereotyped fashion and that are redolent with clinical practices of vintages not improving with age.

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The Basis of Psychiatry. (Psychobiological Medicine.) ALBERT C. BUCKLEY, M.D. Philadelphia: Lippincott, 1921. Pp. 447. Review by Clara Harrison Town, Ph.D.

The subtitle of this latest text on mental disorders makes clear in two words the viewpoint from which its problems are discussed. One expects to find, and does find, interpretations of the psychiatric phenomena in terms of physical and psychological reaction and development and a therapy based upon these interpretations. The author is strongly imbued with the behavioristic tendencies which everywhere dominate psychological thought to-day, and looks upon each patient as a biological problem requiring for its elucidation a study of every reaction of the individual—physical, physiological, psychological—however unrelated these reactions may appear to be to the symptoms which occasion the study. "It is firmly established," we read, "that there is no fundamental difference between the pathological problems of the psychiatrist and those presented to the observer in general medicine."

The author holds that in all cases of mental disorder there is an organic basis—"that the person whose reactions . . . occur in a distinctly abnormal manner . . . should be regarded as a person differently constituted from the average from the standpoint of

the nervous system." He recognizes with equal clearness the effect of the environment on the development of the psychoses, emphasizing the part played by the environment in the development of all the potentialities of the organism, normal and abnormal. He separates those suffering from the psychoses into two classes: (1) Those who develop psychoses irrespective of environment. (2) Those who develop psychoses provided there exists the proper environment and exciting causes. As illustration he points to the fact that such experiences as severe mental strain, excessive alcoholism or syphilis lead to psychoses in some individuals while in others they are sometimes severe enough to cause death without exciting the least mental disorder, and he deduces the conclusion that the difference in effect is due to difference in organic constitution. This well-balanced viewpoint which emphasizes impartially each aspect of an individual's experience and behavior is consistently sustained in the chapters concerning etiology, exciting causes and classification. As a basis for study and for statistical reports the following classification, predominantly behavioristic, is offered: (1) Mental disorders with an organic substratum which show evidence of defective function of the organ of adjustment in the form of an irrecoverable loss. (2) A group which represents a quantitative disturbance of the normal mental processes (manic and depressive psychoses). (3) A group characterized by primary disturbance of the sensory sphere and consequent mental confusion, resulting in qualitative disturbances. Part 2 of the volume, which is devoted to the differential description and discussion of the various mental disorders, follows in a general way the classification adopted by the American Medico-Psychological Association in 1917, but there is also a synthesis of types following the above behavioristic classification, and a grouping of the dementia praecox types and the manic-depressive types under the respective rubrics-schizophrenic psychoses and cyclothymic psychoses.

The descriptions of the disease types are graphic and complete and in every case are preceded by a discussion of the etiology, and followed by valuable directions concerning treatment. In the discussion of the popular psychoanalytic method of treating the psychoneuroses the author does not hesitate to state unequivocally that he holds a dissenting opinion: "The experience of the writer is in accord with that of Dercum and Lloyd that the instances in which sexual matters form the basis of worries, fears and depressions are not in the majority; that the results to be obtained can be

reached without resorting to the operation of 'mental catharsis' which has the disadvantages of being tedious, painful to the patient and in the end indefinite as to the accuracy of the results obtained, for the reason that it is difficult to clearly separate that which is primarily the product of the patient's mind from those psychoanalytic results which are the products of the examiner's mind." This opinion is followed by advice to "avoid going out of the way to inject into the fatigued patient's mind a score of ideas which even though submerged in the unconscious possibly may do less harm than if brought to the patient's realization." It is a relief to the reviewer to find a current discussion of the psychoneuroses which is not submerged in the vagaries and symbolism of the Freudian psychology.

The chapters on mental processes and symptomatology are so admirably correlated that one feels they might advantageously have been molded into one, the symptoms being utilized to more fully illustrate the mental processes and the processes in turn to elucidate the symptoms. The biological viewpoint of the author does not lead him to develop these chapters after the more extreme behavioristic tendencies; the familiar nomenclatures of both psychiatry and psychology are retained, and the ideas of Wundt and Titchener contribute largely to the general psychological scheme. A few pages are devoted to the subject of the unconscious and the theories of Janet and of Freud. The treatment of the emotions is enriched by a presentation of the results of the recent studies of the activities of the endocrine glands and the autonomic nervous system in relation to affective states. The author preserves throughout an impartial, impersonal attitude presenting theories and findings of diverse sorts with equal fidelity and emphasis.

The chapter on methods of examination is disappointing to the psychologist on account of the striking difference in exactitude of the methods employed for the physical examination and those employed for the psychological examination. The physical examination includes exact laboratory tests and measurements, and the directions for making such tests are detailed and clear. On the other hand the psychological examination recognizes the rich technic of clinical psychology by the association test alone. And this occurs in a text which makes abundant use of the theoretical contributions of the psychological laboratory. The omission seems to the reviewer a direct challenge to the psychologist who visages the science as of value from the clinical standpoint.

A review of the volume would not be complete did it not include a word of praise for the admirable topic summaries and the remarkably complete and well arranged index which add greatly to its practical usefulness as a text and reference book.

CLARA H. TOWN

PHILADELPHIA, PA.

ZACCHI, ANGELO, *L'Uomo. Vol. I. La Natura.* Roma. Francesco Ferrari. Pp. xi +548. 15 Lire.

The aim of this book is to set forth the traditional spiritualistic doctrine of the nature of man, and is addressed in the first instance to persons of ordinary cultured attainments. It is not a text book of philosophy, but one of a series of philosophy of religion by the same author.

The method adopted is not one of a priori dogmatism but starts from a survey of the various activities, biological and psychological, which man exhibits. We cannot however confine ourselves to the data of experience but must try and bring these under higher categories of causation, in order to get a complete theory of man's nature. Writers in other fields are asserting to-day that psychology is the study of what a man does; but a study of behavior alone will not tell us all that a man is.

The author carries one through a discussion of the various activities of man, and insists on the distinction between sense and intelligence as maintained by the scholastics, not merely because they are the doctrines of the scholastics, but because the facts themselves lead to this conclusion. From the discussion of intelligence and the intellectual faculties the transition to that of will follows as a matter of course. Will is inclination and is rooted in knowledge, and as there are two kinds of knowledge, sensible and intellectual, so there are two kinds of inclination or appetite, sensible and intellectual. Will is properly of the latter order. Is the will free? or determined? This problem is dealt with at considerable length; various objections to free will are temperately dealt with; and the scholastic doctrine of will and its exercise is clearly explained.

At the back so to speak of man's activity is the soul, a spiritual substance which incomplete in itself as a substance informs the body so as to constitute an individual person. Man therefore though one as an individual is dual in nature, partly material and corporeal, partly spiritual and incorporeal. The relation of body

and mind, concerning which so much confusion of thought prevails, becomes immensely clearer in the light of the scholastic theory here exposed. Soul is the root cause of all man's being and activity. It is endowed with various powers or capacities, the vegetative, sensitive, and intellectual; hence its immediate dependence on the body for the due exercise of some of its functions, and its relative independence as regards its higher intellectual and spiritual functions. The union of the soul with the body is not merely accidental like that of the motive power of an engine, but something vastly more intimate and personal.

The author fully realizes the difficulties of the theory, but maintains that that is not a sufficient reason for rejecting it. A copious bibliography of modern writings of psychological import accompanies each chapter, and throughout the volume the author shows his full acquaintance with the views of other writers. Would that these writers had a more accurate and first-hand knowledge of what the scholastic doctrine of man's nature really is.

G. A. ERLINGTON

OXFORD, ENGLAND

COMMUNICATION

MAASS' BEYTRAEGE

In his "Contribution towards a History of the Doctrine of Mental Suggestion or Association" (*The Works of Thomas Reid*, II., e.g., 1863, 889 ff.), Sir Wm. Hamilton expresses his indebtedness to the *Beyträge* of J. G. E. Maass. Since even so diligent a scholar as H. C. Warren has been unable to verify this reference (*A History of the Association Psychology*, 1921, 21), it may be worth while to say that Maass' *Beiträge zur Geschichte der Lehre von der Vergesellschaftung der Vorstellungen* form the third part of his *Versuch über die Einbildungskraft* (1792; 1797, 311 ff.).

E. B. TITCHENER

EDITORIAL NOTE

Plans have been under way for a number of months to have the Abstract section of the BULLETIN truly international in scope by having as coöperating editors the editors of other national journals in France, Germany, Great Britain, Italy, and Sweden. Already promises of active coöperation have been received from some, and it is hoped that announcement of definite foreign coöperation may be made in our next Abstract number.

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